--While this invention has been described in conjunction with specific embodiments thereof, it is evident that many alternatives, modifications and variations will be apparent to those skilled in the art. Accordingly, the preferred embodiments of the invention as set forth herein, are intended to be illustrative, not limiting. Various changes may be made without departing from the true spirit and full scope of the invention as set forth herein and defined in the claims—

IN THE CLAIMS:

Please cancel claims 1-19 in their entirety and without prejudice and add the following new claims:

--20. A process for creating and managing pairs of asymmetrical cryptographic keys and associated certificates, each pair of keys being intended for a subject managed by a computer system (1), comprising:

- searching in storage means (7) for at least one subject for which a pair of asymmetric keys and an associated certificate must be created;
- creating at least one first individual request for creating and certifying a pair of asymmetric keys for said subject;
- transmitting a key generation request corresponding to said first individual creation and certification request to a key generating center (8), which issues a pair of asymmetric keys in accordance with said key generation request;
- creating at least one second individual request for certifying the public key created for said subject; and
- transmitting a certification authority request corresponding to said second individual certification request to a certification authority (12), which issues a certificate in accordance with said request.

21. A process according to claim 20, comprising creating a pair of keys must be created for a given subject when said subject lacks a pair of keys and a corresponding first individual creation and certification request, or when a pair of keys has been requested for said subject, or when the certificate of a pair of keys for said subject intended for an identical use has been revoked and a new pair of keys has been requested.

22. A process according to claim 20, further comprising executing said process periodically.

23. A process according to claim 20, wherein each individual first and second request is created from corresponding multiple creation and certification requests stored in the storage means (7) relative to a set of subjects belonging to a preset list or to a set of subjects defined by predetermined criteria, as well as to model pairs of keys and associated model certificates for the set in question.

24. A process according to claim 21, wherein each individual first and second request is created from corresponding multiple creation and certification requests stored in the storage means (7) relative to a set of subjects belonging to a preset list or to a set of subjects defined by predetermined criteria, as well as to model pairs of keys and associated model certificates for the set in question.

25. A process according to claim 22, wherein each individual first and second request is created from corresponding multiple creation and certification requests stored in the storage means (7) relative to a set of subjects belonging to a preset list or to a set of subjects defined by predetermined criteria, as well as to model pairs of keys and associated model certificates for the set in question.

26. A process according to claim 23, comprising searching in each of the multiple creation and certification requests of the system for all of the subjects in a condition such that a pair of keys must be created.

27. A process according to claim 24, comprising searching in each of the multiple creation and certification requests of the system for all of the subjects in a condition such that a pair of keys must be created.

28. A process according to claim 25, comprising searching in each of the multiple creation and certification requests of the system for all of the subjects in a condition such that a pair of keys must be created.

29. A process for creating and managing certificates for pairs of asymmetrical cryptographic keys, each certificate being intended for a pair of asymmetrical cryptographic keys for a subject managed by a computer system (1), comprising:

- searching in storage means (7) for at least one pair of asymmetric keys for the public key for which a certificate must be created;
- creating at least one individual certification request for certifying a public key;
- transmitting a certification authority request corresponding to said individual certification request to a certification authority (12), which issues a certificate in accordance with said request.

30. A process according to claim 29, further comprising creating the certificate for a given subject when said subject lacks a certificate and an individual certification request, or when a certificate has been requested for said subject, or when the certificate of a pair of keys for said subject expires, or when the certificate of a pair of keys has been revoked.

31. A process according to claim 29 comprising executing said process periodically.

32. A process according to claim 30 comprising executing said process periodically.

33. A process according to claim 30, comprising creating the certificate for a given subject when the certificate expires during this period.

34. A process according to claim 31, comprising creating the certificate for a given subject when the certificate expires during this period.

35. A process according to claim 32, comprising creating the certificate for a given subject when the certificate expires during this period.

36. A process according to claim 29, further comprising creating each individual request from a corresponding multiple certification request recorded in the storage means (7) relative to a set of pairs of keys for subjects belonging to a preset list or to a set of pairs of keys for subjects defined by predetermined criteria, as well as to associated model certificates for the set in question.

37. A process according to claim 30, further comprising creating each individual request from a corresponding multiple certification request recorded in the storage means (7) relative to a set of pairs of keys for subjects belonging to a preset list or to a set of pairs of keys for subjects defined by predetermined criteria, as well as to associated model certificates for the set in question.

38. A process according to claim 31, further comprising creating each individual request from a corresponding multiple certification request recorded in the storage means (7) relative to a set of pairs of keys for subjects belonging to a preset list or to a set of pairs of keys for subjects defined by predetermined criteria, as well as to associated model certificates for the set in question.

39. A process according to claim 33, further comprising creating each individual request from a corresponding multiple certification request recorded in the storage means (7) relative to a set of pairs of keys for subjects belonging to a preset list or to a set of pairs of keys for subjects defined by predetermined criteria, as well as to associated model certificates for the set in question.

40. A process according to claim 36 further comprising searching in each of the multiple certification requests of the system for all of the subjects in a condition such that a certificate must be created.

41. A process according to claim 37 further comprising searching in each of the multiple certification requests of the system for all of the subjects in a condition such that a certificate must be created.

42. A process according to claim 38 further comprising searching in each of the multiple certification requests of the system for all of the subjects in a condition such that a certificate must be created.

43. A process according to claim 39 further comprising searching in each of the multiple certification requests of the system for all of the subjects in a condition such that a certificate must be created.

44. A process according to claim 20, characterized in that each multiple request comprises an attribute relative to at least one execution date and in that said process consists of including in the search only the multiple requests whose expiration date has arrived.

45. A process according to claim 20, characterized in that it consists of performing the encoding of one or more extensions in accordance with one or more given rules and of entering the encoded extension or extensions into the individual certification request during the creation of said individual certification request.

46. A process according to claim 20, comprising changing the value of an attribute contained in each of the individual first and second requests to indicate status of the process.

47. A computer system (1) for creating and managing pairs of asymmetrical cryptographic keys and certificates associated with the pairs of keys, the pairs of keys and the certificates being intended for subjects managed by said system, comprising a key generating center (8) for creating at least one pair of keys at the request of the local registration authority (5) with which the key generating center communicates; at least one certification authority (12) to which the system has access for creating a certificate at the request of the local registration authority (5) and means for automating the creation and/or certification of at least one pair of keys for each subject managed by the system (1).

48. A computer system (1) according to claim 47, further comprising:

- a central management service (3) for creating, updating and consulting objects and subjects managed by said system;
- a local registration authority (5) for handling the creation and/or the certification of keys intended for the objects and the subjects;
- a central security base (7) containing the subjects and the objects managed by the system with which the local registration authority communicates;
- a key generating center (8) for creating at least one pair of keys at the request of the local registration authority (5) with which the key generating center communicates; and

at least one certification authority (12) to which the system has access for creating a certificate at the request of the local registration authority (5).

49. A computer system according to claim 47, including a wake up mechanism (6) for periodically waking up the local registration authority (5).

50. A computer system according to claim 48 including a wake up mechanism (6) to periodically wake up the local registration authority (5).

51. A process for creating and managing symmetrical cryptographic keys, each key being intended for a subject managed by a computer system (1), characterized in that it consists of:

- searching in storage means (7) for at least one subject for which a symmetric key must be created;
- creating at least one individual request for creating a symmetric key for said subject;
- transmitting a key generating request corresponding to said individual creation request to a key generating center (8), and
- issuing by said key generating center a symmetric key in accordance with said transmitted key generating request.

52. A computer system (1) for creating symmetrical cryptographic keys, for managing subjects by said system, characterized in that it comprises a key generating center (8) for creating at least one pair of keys at the request of the local registration authority (5) with which the key generating center communicates; at least one certification authority (12) to which the system has access for creating a certificate at the request of the local registration authority (5) and means for automating the creation of at least one key for each subject managed by the system (1).--

50. A computer system according to claim 48 including a wake up mechanism (6) to periodically wake up the local registration authority (5).

51. A process for creating and managing symmetrical cryptographic keys, each key being intended for a subject managed by a computer system (1), characterized in that it consists of: